

CHROMOSOME NUMBERS IN THE GENUS HAWORTHIA.

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The writer (Riley, 1959b) has recently published a few observations on chromosome numbers in the genus *Haworthia* as part of a general study of the tribe Aloineae; this study has also included papers on *Aloë* (Riley, 1958, 1959a, 1959b), *Gasteria* (Riley, 1948a, 1953, 1958, 1959b, 1959c) and intergeneric hybrids (Riley, 1948b, 1950). The information on *Haworthia* was very limited and included only *H. reinwardtii*, which was collected at the Kamtra River near Grahamstown, and nine species which were received from Mr. A. Berg of the University of Pretoria. Of these last, three are apparently species whose chromosomes had not previously been studied.

The study on *Haworthia* is being continued with some new material that was not previously available to the writer, but as it is possible that this work will be rather extensive, some time will probably have to elapse before a report on it can be given. In the meantime, it seems desirable to summarize the chromosome numbers that the writer and many others have previously published in the same way that the writer (Riley, 1959d) has listed the chromosome numbers that have been published in *Aloë*.

The chromosome numbers of *Haworthia* that have been reported to date are given in Table 1. The species are arranged by sections and follow the outline set forth in Jacobsen's *Handbuch* (1954). Since some sections appear to have more polyploidy than do others, this arrangement will facilitate a comparison of the various sections. In this table are given the haploid and diploid numbers that have been reported and the references to the journal articles in which these numbers appear. The various species and varieties which are included in the table are grouped as follows: species listed in Jacobsen (1954) from which chromosome numbers have been obtained; horticultural varieties; putative hybrids; species which are neither listed in Jacobsen nor cited as horticultural varieties; and, finally, unidentified plants of which the chromosome numbers have been counted.

The number of diploid species, polyploid species and species that have both diploid and polyploid individuals has been tabulated. In compiling this list, each species has been included only once even though it has been

studied by different authors and even though it has been published under several synonyms. For example, *H. sampaiana* is included only once although it was studied under that name by both Pinto-Lopes and Snoad and was also studied as *H. coarctata* var. *sampaiana* by Resende. For this purpose the synonymy that is found in Jacobsen's *Handbuch* is adopted. In some instances the only plants of a given species that have been studied were studied under varietal names. Such species have been included once in the tabulation of species even though only varieties were reported. An example is *H. eilyae* in which only *H. eilyae* var. *paellintziana* and *H. eilyae* var. *zantneriana* were studied.

A similar tabulation was made for forms and varieties taken together. In compiling this list, the species, itself, is not included. For example, *H. coarctata*, *H. coarctata* var. *haworthii* and *H. coarctata* var. *krausii* have been reported in the literature. *H. coarctata* has been included once in the tabulation of species and twice in the list of varieties. However, if only several varieties of a species and no plant designated simply as the species itself, have been studied, such a group has been listed once in the species list and all the varieties studied minus one were included when the tabulation of varieties was made. Thus, for *H. greenii* three forms and one variety are reported in the literature but no plant designated simply as *H. greenii*. These forms and varieties have been included once in the count of species and three times in the list of forms and varieties.

Of the species that were tabulated 50 are diploids, one is a triploid, three are tetraploids, two are pentaploids, one is a hexaploid and one has been found so far only as a pentaploid with an extra chromosome. Two species include both diploid and tetraploid individuals, one has diploid, tetraploid and hexaploid plants and two have both $2n$ and $6n$ plants: one species was found to include individuals with $2n$, $4n$, $5n$, $6n$ and $8n$ chromosomes and one species has both tetraploid and aneuploid plants.

The forms and varieties of the above species also show great variation. Seventeen are apparently wholly diploids, two are triploids, fifteen are tetraploids, three are hexaploids, three are octoploids, one is a nonaploid and two are aneuploids. One variety has $2n$ and $6n$ plants, one has diploid and tetraploid individuals, one has both $3n$ and $4n$ plants and one includes plants with $3n + 4$ and $5n$ chromosomes.

It must be remembered that in all species and varieties only a few individual plants have been studied. Therefore, if a given species seems to have only diploid and hexaploid forms a more extensive study of natural populations might reveal some individuals with $3n$, $4n$, $5n$, and other numbers of chromosomes. On the other hand, it must also be re-

membered that most of the plants that have been studied have been growing in botanical gardens overseas and not in their native habitats and that the polyploid forms that have been found have largely been growing in unnatural environments. The only answer to the question of the extent of polyploidy in nature can be determined by examining plants in the field.

Three known horticultural varieties have been found only as diploids. Five putative or known hybrids are diploids, one is a pentaploid, one a hexaploid, one a heptaploid, and one has both triploid and pentaploid individuals. Of the species and varieties not in Jacobsen (1954), thirteen are $2n$, one is $6n$ and one has $2n$ and $4n$ individuals. A great many unidentified plants have been studied. Seventy-nine are diploid, five are triploid, twenty-four tetraploid, five pentaploid, ten hexaploid, one is heptaploid and two are octoploid. Of the species and varieties studied, only 61 per cent are diploid.

This tabulation shows that there is a considerable amount of polyploidy in *Haworthia* and certainly a great deal more than in *Aloë* (Riley, 1959d).

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TABLE 1.

Species of *Haworthia* of which the chromosomes have been counted; the chromosome numbers reported; and the literature references.

The species are arranged according to Jacobsen (1954).

Species.	<i>n</i> no.	<i>2n</i> no.	References.
SPECIES LISTED IN JACOBSEN.			
Sec. 1 Albicantes Haw.:			
<i>H. utewaliliana</i> v. Poelln.	..	..	14 Riley, 1959b
Sec. 2 Arachnoidea Haw.:			
<i>H. herbacea</i> (Mill.) Stearn.			
as <i>H. atrovirens</i> Haw.	..	..	14 Snoad, 1951a
as <i>H. pumila</i> Duval	..	..	14 Snoad, 1951a
<i>H. setata</i> Haw.	..	..	14 Resende, 1937
<i>H. setata</i> var. <i>gigas</i> v. Poelln.	..	..	
as <i>H. gigas</i> v. Poelln.	..	..	14 Resende, 1937
<i>H. translucens</i> Haw.			
as <i>H. pellucens</i> Haw.	..	..	14 Resende, 1937
Sec. 3 Coarctatae Bgr.:			
<i>H. armstrongii</i> v. Poelln.	..	..	21 42 Pinto-Lopes, 1944, 1946

Species.	<i>n</i> no.	2 <i>n</i> no.	References.
SPECIES LISTED IN JACOBSEN—Continued.			
<i>H. carrissoi</i> Res.	14	28	Pinto-Lopes, 1944, 1946
<i>H. coarctata</i> Haw.		14	Snoad, 1951a
		42	Resende, 1937, 1938; Kondo and Megata, 1943
<i>H. coarctata</i> var. <i>haworthii</i> Res. . .		42	Snoad, 1951a
as <i>H. coarctata</i> var. <i>haworthii</i> forma major Res.	21	42	Pinto-Lopes, 1944, 1946
<i>H. coarctata</i> var. <i>kraussii</i> Res. . . .	21	42	Pinto-Lopes, 1944, 1946
as <i>H. coarctata</i> var. <i>kraussii</i> . . .		42	Snoad, 1951a
<i>H. eilyae</i> var. <i>poellnitziana</i> Res. . .	7	14	Pinto-Lopes, 1944, 1946
<i>H. eilyae</i> var. <i>zantneriana</i> v. Poelln. .		14	Pinto-Lopes, 1944, 1946
<i>H. fulva</i> G. G. Smith		14	Snoad, 1951a
<i>H. glauca</i> Bak.		28	Pinto-Lopes, 1946; Snoad, 1951a
		29	Resende, 1938
<i>H. greenii</i> forma <i>bakeri</i> Res.	14	28	Pinto-Lopes, 1944, 1946
<i>H. greenii</i> forma <i>minor</i> Res.	14	28	Pinto-Lopes, 1944, 1946
<i>H. greenii</i> forma <i>pseudocoarctata</i> (v. P.) Res.			
as <i>H. coarctata</i> var. <i>haworthii</i> forma <i>pseudocoarctata</i> (v. P.) Res. . . .	14	28	Pinto-Lopes, 1944, 1946
<i>H. greenii</i> var. <i>silvicola</i> G. G. Smith..		28	Snoad, 1951a
<i>H. herrei</i> v. Poelln.		14	Snoad, 1951a
		42	Resende, 1938
<i>H. herrei</i> var. <i>depauperata</i> v. Poelln. .		14	Snoad, 1951a
		42	Pinto-Lopes, 1944, 1946
<i>H. herrei</i> var. <i>herrei</i> Res.			
as <i>H. herrei</i> var. <i>poellnitzii</i> Res. . .		14	Pinto-Lopes, 1944, 1946
<i>H. jacobseniana</i> v. Poelln.	7	14	Pinto-Lopes, 1944, 1946
<i>H. jonesiae</i> v. Poelln.	7	14	Pinto-Lopes, 1944, 1946
<i>H. kewensis</i> v. Poelln.		14	Pinto-Lopes, 1944, 1946
<i>H. lisbonensis</i> Res.	7	14	Pinto-Lopes, 1944, 1946
<i>H. reinwardtii</i> (S. D.) Haw.		14	Riley, 1959b
		28	Resende, 1937, 1938
		42	Sato, 1937, 1942
<i>H. reinwardtii</i> var. <i>adelaidensis</i> v. Poelln.		14	Pinto-Lopes, 1946; Snoad, 1952
<i>H. reinwardtii</i> var. <i>archibaldiae</i> v. Poelln.	21	Pinto-Lopes, 1946; Snoad, 1952	
		28	Resende, 1938
<i>H. reinwardtii</i> var. <i>brevicula</i> G. G. Smith	14	Snoad, 1951a	

Species.	n no.	2n no.	References.
SPECIES LISTED IN JACOBSEN—Continued.			
<i>H. reinwardtii</i> var. <i>chalumnensis</i> G. G. Smith		21	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>chalwinii</i> (Marl. et Bgr.) Res.	14	28	Pinto-Lopes, 1946
as <i>H. chalwinii</i> Marl. et Bgr.		28	Snoad, 1952
as <i>H. Calwinii</i> Marl. et Bgr.		28	Resende, 1938
<i>H. reinwardtii</i> var. <i>committeesensis</i> G. G. Smith		28	Resende, 1937
<i>H. reinwardtii</i> var. <i>conspicua</i> v. Poelln.		28	Snoad, 1951a
		28	Resende, 1938; Pinto-Lopes, 1946
<i>H. reinwardtii</i> var. <i>fallax</i> v. Poelln.		28	Pinto-Lopes, 1946
<i>H. reinwardtii</i> var. <i>grandicula</i> G. G. Smith		14	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>kunstdriftensis</i> G. G. Smith		28	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>kaffirdriftensis</i> G. G. Smith		14	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>major</i> Bak.	7	14	Pinto-Lopes, 1946
as <i>H. reinwardtii</i> var. <i>pulchra</i> v. Poelln.		28	Resende, 1938
<i>H. reinwardtii</i> var. <i>minor</i> Bak.	7	14	Pinto-Lopes, 1946
<i>H. reinwardtii</i> var. <i>peddiensis</i> G. G. Smith		21	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>riebeekensis</i> G. G. Smith		14	Snoad, 1951a
<i>H. reinwardtii</i> var. <i>triebnerii</i> Res.	7	14	Pinto-Lopes, 1946
<i>H. reinwardtii</i> var. <i>typica</i> v. Poelln.		28	Resende, 1938
<i>H. reinwardtii</i> var. <i>valida</i> G. G. Smith		28	Snoad, 1951a
<i>H. resendeana</i> v. Poelln.		21	Resende, 1938; Pinto-Lopes, 1946; Snoad, 1952
<i>H. revendettii</i> Uitew.		35	Pinto-Lopes, 1944, 1946
<i>H. rubrobrunea</i> v. Poelln.		35?	Pinto-Lopes, 1944, 1946; Snoad, 1951a
<i>H. sampaiana</i> Res.		36	Pinto-Lopes, 1944; 1946; Snoad, 1951a
as <i>H. coarctata</i> var. <i>sampaiana</i> Res.		39 or 40	Resende, 1938
<i>H. sampaiana</i> forma <i>broteriana</i> (Res.) Res. et Pinto-Lopes		25	Pinto-Lopes, 1944,
as <i>H. brotereana</i> Res.		35	1946
as <i>H. sampaina</i> Res., <i>brotereana</i> Res.		35	Snoad, 1951a
Sec. 4 Denticulatae Bak.:			
<i>H. altilinea</i> Haw.		14	Riley, 1959b
<i>H. altilinea</i> var. <i>denticulata</i> (Haw.) v. Poelln.		14	Resende, 1937
as <i>H. denticulata</i> Haw.		14	
<i>H. mucronata</i> var. <i>polyphylla</i> (Bak.) v. Poelln. ?		14	Snoad, 1951a

Species.	n no.	2n no.	References.
SPECIES LISTED IN JACOBSEN—Continued.			
Sec. 5 Fenestratae v. Poelln.:			
<i>H. maughanii</i> v. Poelln.		14	Resende, 1937; Snoad, 1951a
<i>H. truncata</i> Schönl.		14	Resende, 1937; Snoad, 1951a
Sec. 7 Limifoliae G. G. Smith:			
<i>H. limifolia</i> Marl.		14 } 28 }	Resende, 1937, 1940 Resende and Viveiros, 1948
<i>H. limifolia</i> var. <i>schuldtiana</i> Res.		14	
Sec. 8 Limpidae Bgr.:			
<i>H. cooperi</i> Bak.	7		Ferguson, 1926
<i>H. obtusa</i> Haw. emend. Uitew. as <i>H. cymbiformis</i> Haw. (var. <i>obtusa</i> Bak. ?)		14	Riley, 1959b
<i>H. obtusa</i> var. <i>pilifera</i> (Bak.) Uitew. as <i>H. pilifera</i> Bak.	7	14	Taylor, 1925
		14	Resende, 1937
Sec. 9 Loratae (Salm.) Bgr.:			
<i>H. angustifolia</i> Haw.		14	Riley, 1959b
Sec. 10 Margaritiferae Haw.:			
<i>H. attenuata</i> Haw.	7		Marshak, 1934
		14	Resende, 1937; Sato, 1937, 1942; Snoad, 1951a; Riley, 1959b
		14 } 28 }	Kondo and Megata, 1943
<i>H. browniana</i> v. Poelln. as <i>H. browniana</i> v. Poelln.		14	
<i>H. fasciata</i> (Willd.) Haw.		14	Resende, 1937; Sato, 1937, 1942; Kondo and Megata, 1943
<i>H. glabrata</i> (Salm.) Bak.	7		Ferguson, 1926
<i>H. icosiphylla</i> Bak.		14	Snoad, 1951a
<i>H. margaritifera</i> (L.) Haw.		14	Snoad, 1951a
		14	Resende, 1937; Sato, 1942; Kondo and Megata, 1943
as <i>H. margriferia</i>		14	Sato, 1937
<i>H. margaritifera</i> var. <i>minima</i> (Ait.) Uitew. as <i>H. margaritifera</i> var. <i>granata</i>		14	Sato, 1942; Kondo and Megata, 1943
as <i>H. margriferia</i> var. <i>granata</i>		14	Sato, 1937
as <i>H. minima</i> Bak.		14	Resende, 1937
<i>H. papillosa</i> (Salm.) Haw.		14	Resende, 1937
<i>H. radula</i> (Jacq.) Haw.	7		Ferguson, 1926
		14	Resende, 1937; Sato, 1937, 1942; Kondo and Megata, 1943
<i>H. rugosa</i> (Salm.) Bak.		14	Resende, 1937

Species.	n no.	2n no.	References.
SPECIES LISTED IN JACOBSEN—Continued.			
<i>H. semigrabrata</i> Haw.	14		Resende, 1937
<i>H. subattenuata</i> (Salm.) Bak.	14		Sato, 1937, 1942
<i>H. subfasciata</i> (Salm.) Bak.	28?		Ferguson, 1926
<i>H. subulata</i> (Salm.) Bak.	14		Resende, 1937
Sec. 11 Muticae Bgr.:			
<i>H. hurlingii</i> v. Poelln.	14		Kondo and Megata, 1943; Riley, 1959b
<i>H. reticulata</i> Haw.	14		Resende, 1937
<i>H. umbraticola</i> var. <i>hilliana</i> v. Poelln. as <i>H. hilliana</i> v. Poelln.	14		Snoad, 1951a
Sec. 12 Obtusatae Bgr.:			
<i>H. cymbiformis</i> (Haw.) Duv.	14		Snoad, 1951a; Riley, 1959b
as <i>H. cymbiformis</i> Haw.	14	7	Kondo and Megata, 1943
as <i>H. cymbiformis</i> (no author)	14	7	Resende, 1937
<i>H. lepida</i> G. G. Smith	14		Ferguson, 1926
<i>H. ramosa</i> G. G. Smith	14		Sato, 1937, 1942
	14		Snoad, 1951a
	14		Snoad, 1951a
Sec. 13 Planifoliae Bgr.:			
<i>H. aristata</i> Haw.	14		Snoad, 1951a
<i>H. perplexa</i> v. Poelln.	14		Snoad, 1951a
<i>H. planifolia</i> Haw.	14	7	Marshak, 1934
	14		Resende, 1937; Kondo and Megata, 1943; Snoad, 1951a
Sec. 14 Retusae Haw.:			
<i>H. correcta</i> v. Poelln.	14		Snoad, 1951a
<i>H. cuspidata</i> Haw.	14		Resende, 1937; Snoad, 1951a
<i>H. mirabilis</i> Haw.	14		Sato, 1937, 1942
<i>H. retusa</i> (L.) Haw.	14	7	Kondo and Megata, 1943
	14		Resende, 1937; Sato, 1937, 1942
<i>H. ryderiana</i> v. Poelln.	14		Riley, 1959b
<i>H. turgida</i> Haw.	14		Resende, 1937; Snoad, 1951a
Sec. 15 Rigidae Haw. emend Bgr.:			
<i>H. hybrida</i> (Salm.) Haw.	14	7	Ferguson, 1926
	14		Resende, 1937
<i>H. rigida</i> (Lam.) Haw.	14		Ferguson, 1926; Resende, 1937
Sec. 17 Subregularis Bgr.:			
<i>H. subregularis</i> Bak.	14		Snoad, 1951a
Sec. 18 Tessellatae (Salm.) Bak.:			
<i>H. recurva</i> Haw.	7		Ferguson, 1926

Species.	n no.	2n no.	References.
SPECIES LISTED IN JACOBSEN—Continued.			
<i>H. tessellata</i> Haw.	..	56	Snoad, 1951a
as <i>H. tessellata</i>	..	14 } 28 }	Ferguson, 1926; Resende, 1937
	21		Kondo and Megata, 1943
		28 } 35 } 42 }	Kondo and Megata, 1943
		42	Sato, 1937
<i>H. tessellata</i> var. <i>coriacea</i> forma <i>brevior</i> Res. et v. Poelln.	..	58?	Viveiros, 1949
<i>H. tessellata</i> var. <i>coriacea</i> forma <i>longior</i> Res. et v. Poelln.	..	61?	Viveiros, 1949
<i>H. tessellata</i> var. <i>engleri</i> (Dtr.) v. Poelln.	..	28	Resende, 1940
<i>H. tessellata</i> var. <i>inflexa</i> Bak.	..	28	Resende, 1940
<i>H. tessellata</i> var. <i>luisieri</i> Res. et v. Poelln.	..		
as <i>H. tessellata</i> var. <i>luizieri</i> Res. et v. Poelln.	..	63	Viveiros, 1949
<i>H. tessellata</i> var. <i>minutissima</i> (v. P.) Viveiros	..	28	Viveiros, 1949
<i>H. tessellata</i> var. <i>obesa</i> Res. et v. Poelln.	..	56	Resende, 1940; Viveiros, 1949
<i>H. tessellata</i> var. <i>palhinhae</i> Res. et v. Poelln.	..	56?	Viveiros, 1949
<i>H. tessellata</i> var. <i>parva</i> (Haw.) Bak.	14		Ferguson, 1926
<i>H. tessellata</i> var. <i>simplex</i> Res. et v. Poelln.	..	28	Resende, 1940; Viveiros, 1949
<i>H. tessellata</i> var. <i>stephaneana</i> Res. et v. Poelln.	..	42	Resende, 1940; Viveiros, 1949
<i>H. tessellata</i> var. <i>velutina</i> Res. et v. Poelln.	..	56?	Viveiros, 1949
<i>H. venosa</i> (Lam.) Haw.	..	14	Resende, 1937
Sec. 19 Tortuosae Haw. emend. Bak.:			
<i>H. tortuosa</i> Haw.	..	7	Marshak, 1934
<i>H. tortuosa</i> Haw., var.	..	14	Snoad, 1951a
<i>H. tortuosa</i> var. <i>pseudorigida</i> (Salm.) Bgr.	..	14	Resende, 1937
as <i>H. subrigida</i>	..	14	Sato, 1937, 1942
Sec. 20 Trifariae Haw.:			
<i>H. viscosa</i> (L.) Haw.	..	7	Jähnl, 1947
		14	Resende, 1937; Kondo and Megata, 1943; Snoad, 1951
<i>H. viscosa</i> var. <i>pseudotortuosa</i> (Salm.) Bak.	..		
as <i>H. pseudotortuosa</i>	..	14	Ferguson, 1926
<i>H. viscosa</i> var. <i>torquata</i> (Haw.) Bak.	..		
as <i>H. torquata</i>	..	14	Sato, 1937, 1942
HORTICULTURAL VARIETIES.			
<i>H. fasciata</i> var. <i>aureostriata</i> hort.	..	14	Kondo and Megata, 1943
<i>H. krausiana</i> hort. Haage et Schmidt (?)	..	14	Snoad, 1951a
<i>H. margaritifera</i> var. <i>aureovariegata</i> hort.	..	14	Kondo and Megata, 1943

Species.	<i>n</i> no.	<i>2n</i> no.	References.
HYBRIDS OR PUTATIVE HYBRIDS.			
<i>H. coarctatoidea</i> Res. et Viveiros ..	42		Resende and Viveiros, 1948
<i>H. coarctatoides</i> Res. (= <i>H. coarctatoidea</i> ?)	42		Snoad, 1951a
<i>H.</i> ("kotobuki" × <i>retusa</i>)	14		Sato, 1937
<i>H. (retusa</i> × <i>cymbiformis</i>)	14		Sato, 1942
<i>H. herrei</i> v. Poelln. × <i>H. reinwardtii</i> var. <i>minor</i> Bak.	14		Pinto-Lopes, 1946
<i>H. jacobseniana</i> v. Poelln. × <i>H. reinwardtii</i> var. <i>minor</i> Bak.	14		Pinto-Lopes, 1946
<i>H. limifolia</i> var. <i>marlothiana</i> Res. × <i>Haw.</i> sp. of <i>Coarctatae</i> Sec.	21 } 35 }		Resende and Viveiros, 1948
<i>H. tessellata</i> var. <i>minutissima</i> × <i>H. tessellata</i> var. ?	35		Viveiros, 1949
<i>H. tessellata</i> var. <i>palhinhae</i> × <i>H. tessellata</i> var. ?	49		Viveiros, 1949
SPECIES NOT LISTED IN JACOBSEN (1954) OR INDICATED AS HORTICULTURAL VARIETIES.			
<i>H. angusta</i> ?	14		Snoad, 1951a
<i>H. bearii</i> G. G. Smith	14		Snoad, 1951a
<i>H. bearii</i> G. G. Smith, <i>minor</i> G. G. S. ..	14		Snoad, 1951a
<i>H. caudata</i>	14		Sato, 1937, 1942
<i>H. fasciata</i> "hakutei"	14		Sato, 1937
<i>H. glabra pervivida</i>	7		Ferguson, 1926
<i>H. helos</i>	14		Sato, 1937, 1942
<i>H. "kinzyo"</i>	14		Sato, 1937
<i>H. laevis</i>	7		Ferguson, 1926
<i>H. margaritifera</i> var. <i>albo-variegata</i> ..	14		Sato, 1942
<i>H. radula</i> var. <i>variegata</i>	14		Sato, 1942
<i>H. reinwardtii</i> var. <i>haworthii</i>	14	28	Pinto-Lopes, 1946
<i>H. sp.</i> (4 plants)	14		Resende, 1937
<i>H. sp.</i> (75 plants)	14		Snoad, 1951b
<i>H. sp.</i> (5 plants)	21		Snoad, 1951b
<i>H. sp.</i> (24 plants)	28		Snoad, 1951b
<i>H. sp.</i> (5 plants)	35		Snoad, 1951b
<i>H. sp.</i> (10 plants)	42		Snoad, 1951b
<i>H. sp.</i> (1 plant)	49		Snoad, 1951b
<i>H. sp.</i> (2 plants)	56		Snoad, 1951b
<i>H. syringoidea</i> ?	14		Snoad, 1951a
<i>H. tenuis</i>	14		Snoad, 1952
<i>H. tessellata</i> var. <i>typica</i>	42		Resende, 1940
<i>H. tessellata</i> (strain from Kiel)	42		Viveiros, 1949